

# ***IMPACTS OF TRANSPORT INFRASTRUCTURE POLICES***



**Dr. André Dantas, Senior Lecturer in Transportation Engineering.  
Dr. Karisa Ribeiro, Transportation Engineer, MWH-Christchurch.**

*Infrastructure  
Policy*

***IMPACTS***

*Infrastructure  
Policy*

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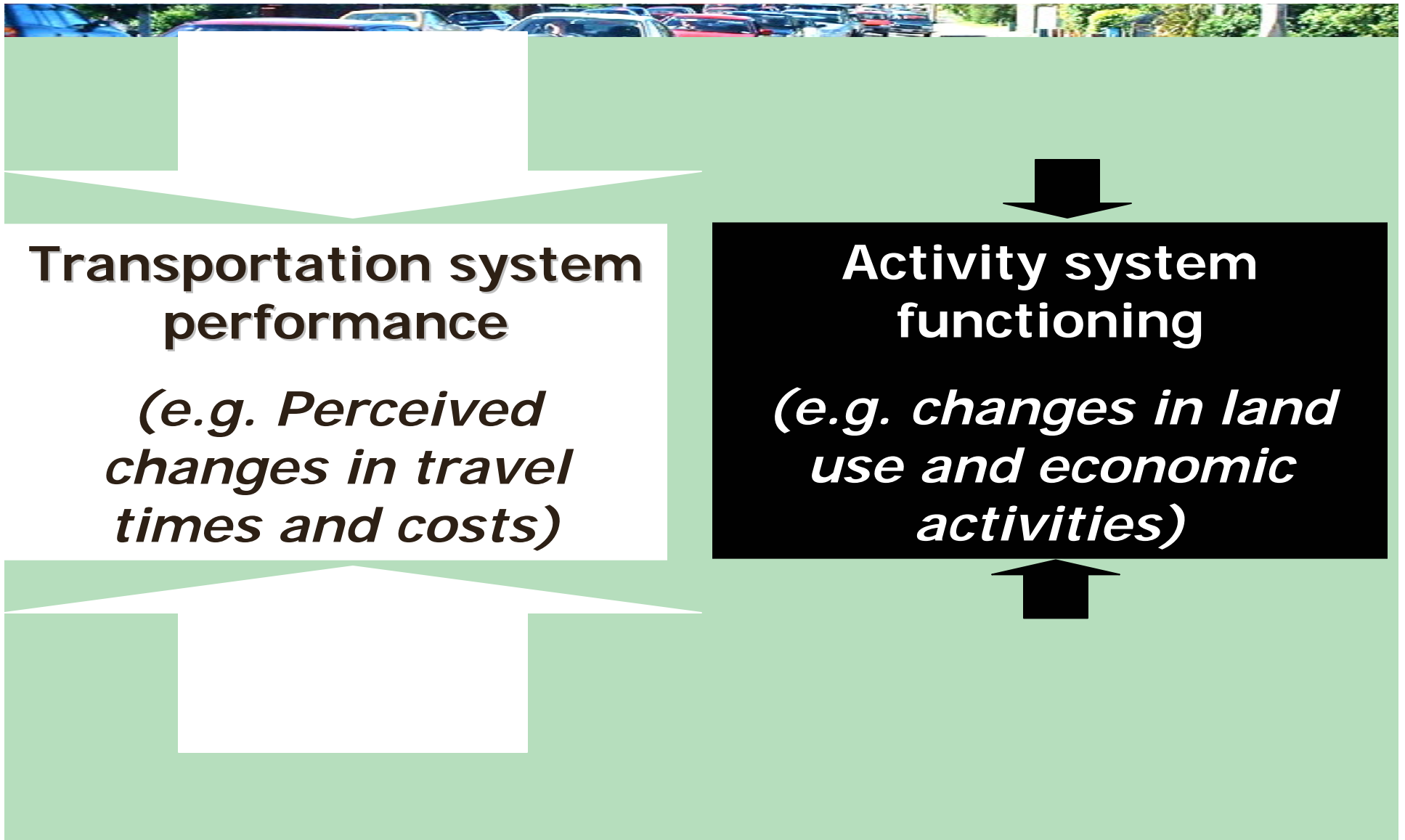
NZ Coast

80 0 80 160 Kilometers

***IMPACTS***



# IMPACTS OF POLICIES



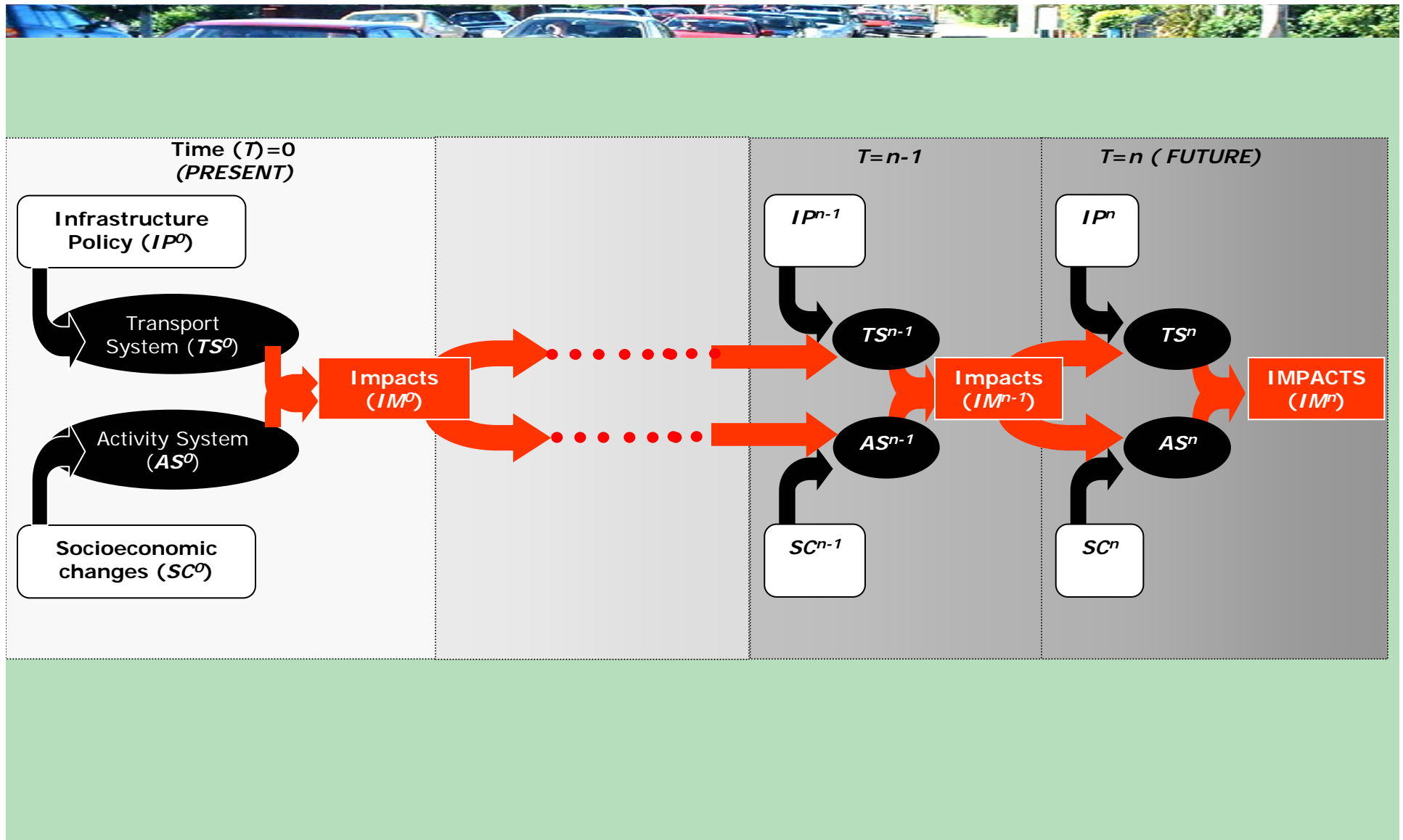


# IMPACTS OF POLICIES



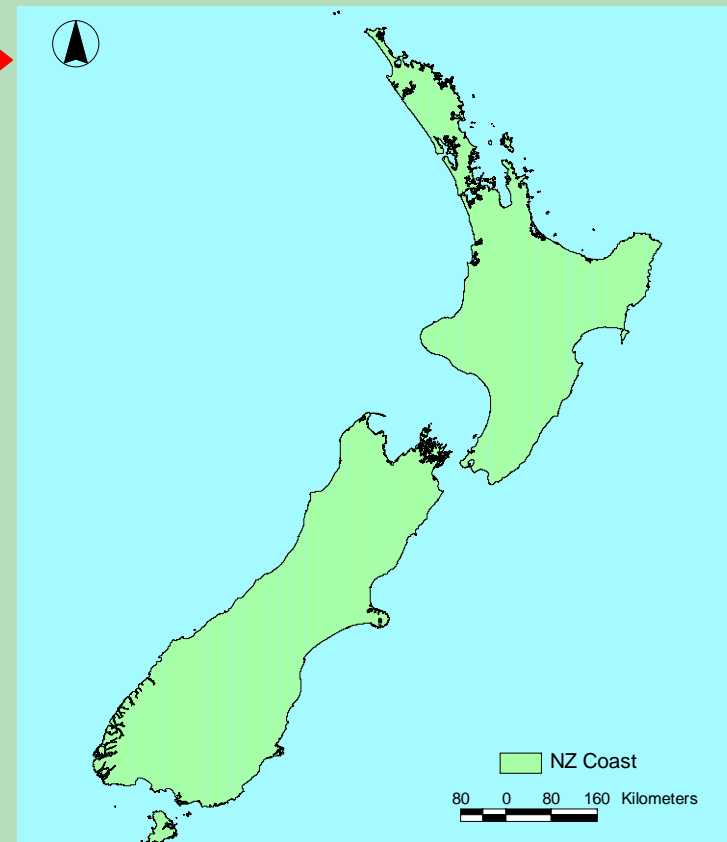
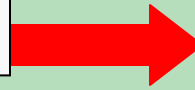
**DYNAMIC  
CHANGES  
OCCURRING OVER TIME!!**

# IMPACT ASSESSMENT FRAMEWORK

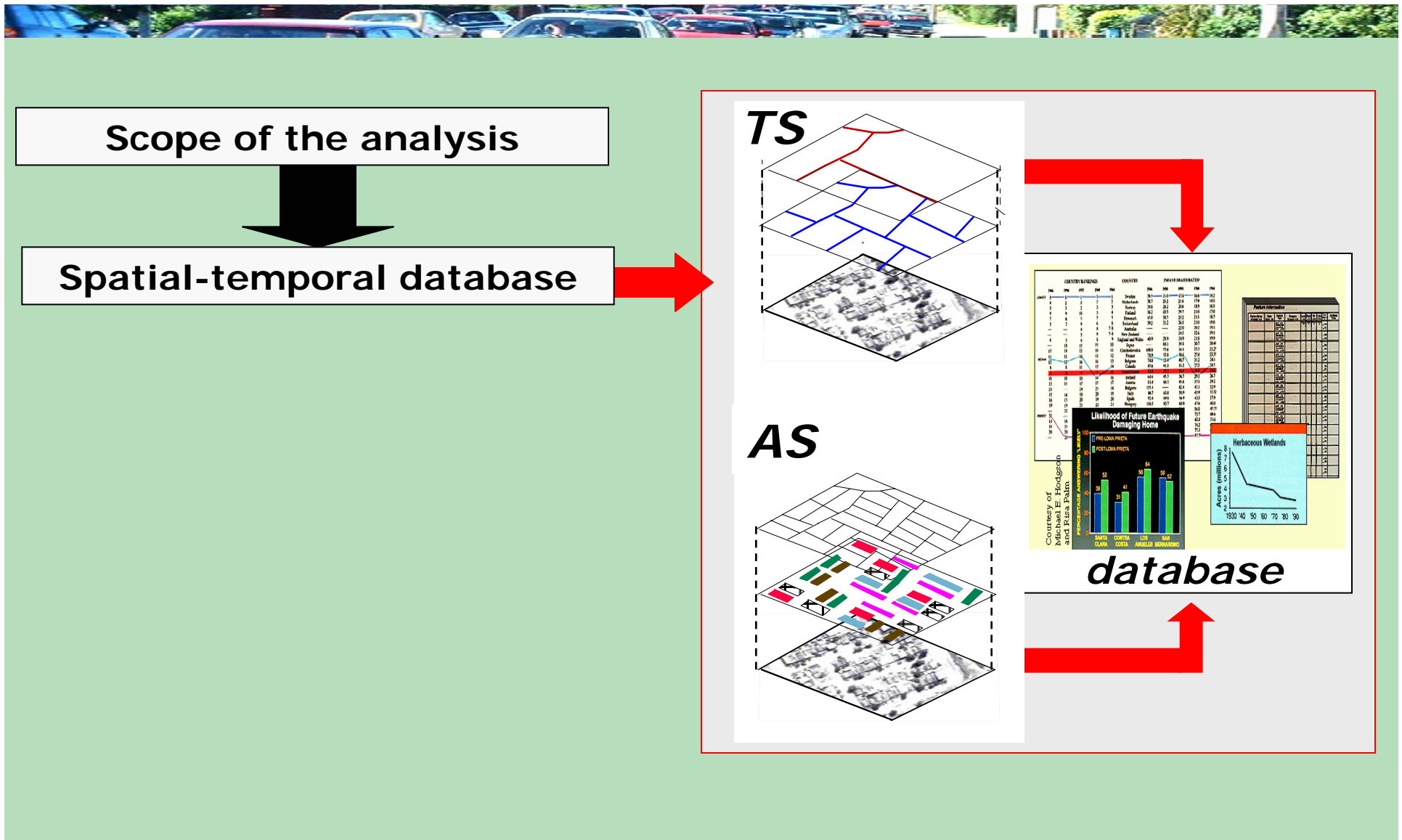


# IMPACT ASSESSMENT FRAMEWORK

Scope of the analysis



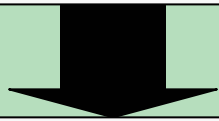
# IMPACT ASSESSMENT FRAMEWORK





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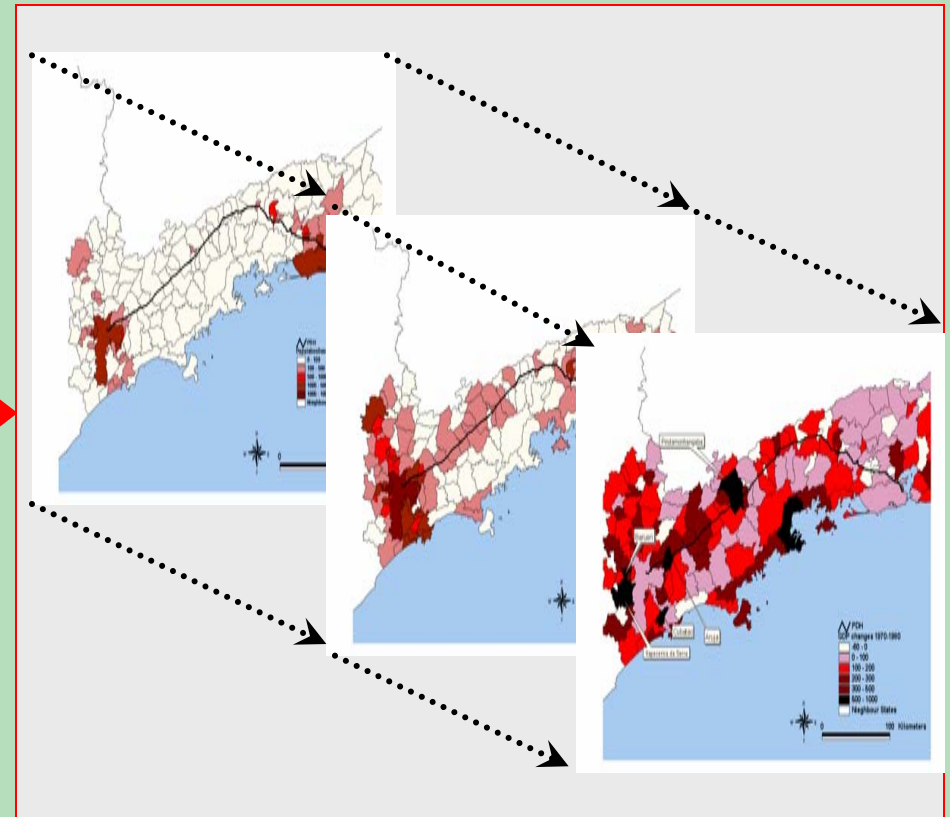
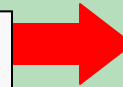
Scope of the analysis



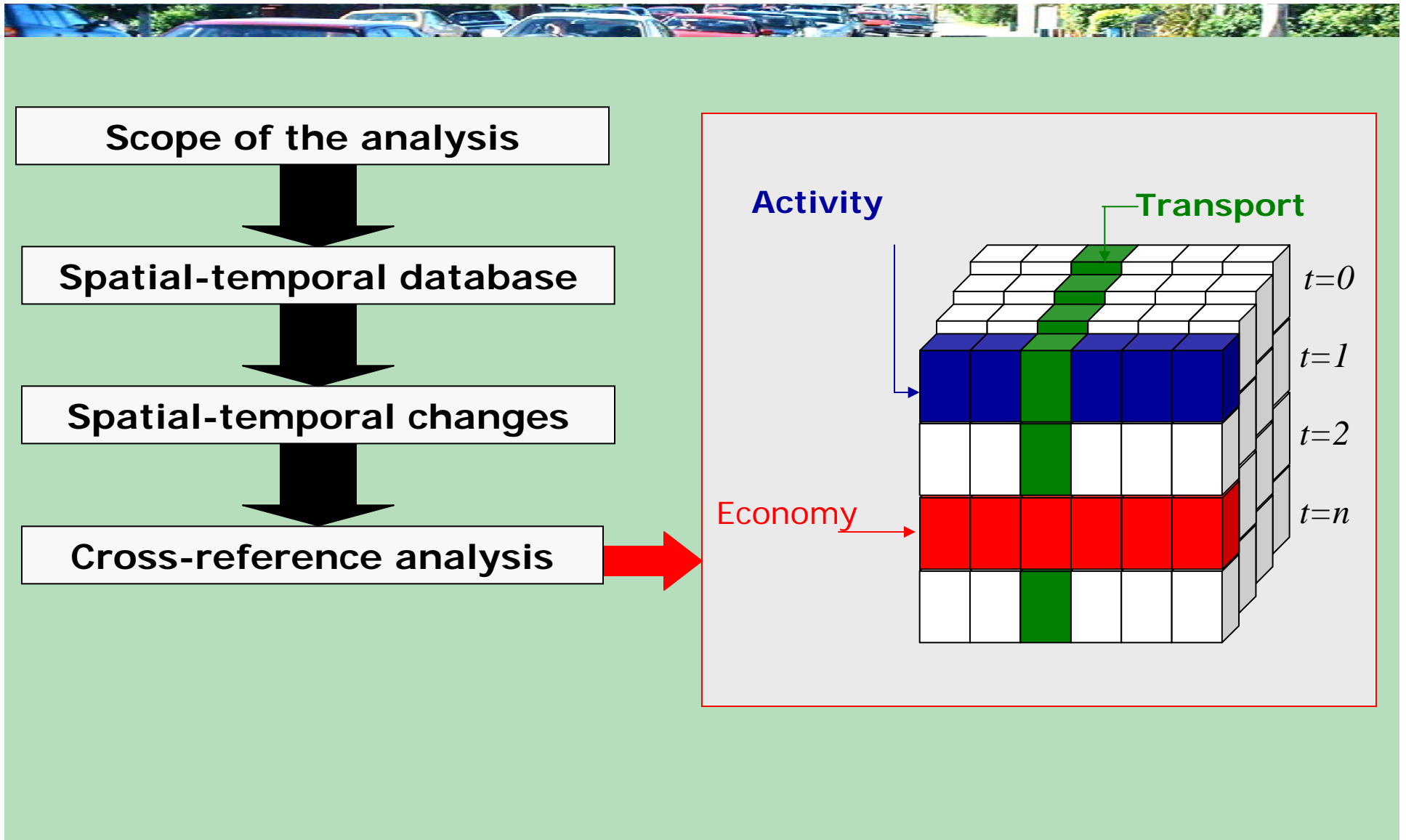
Spatial-temporal database



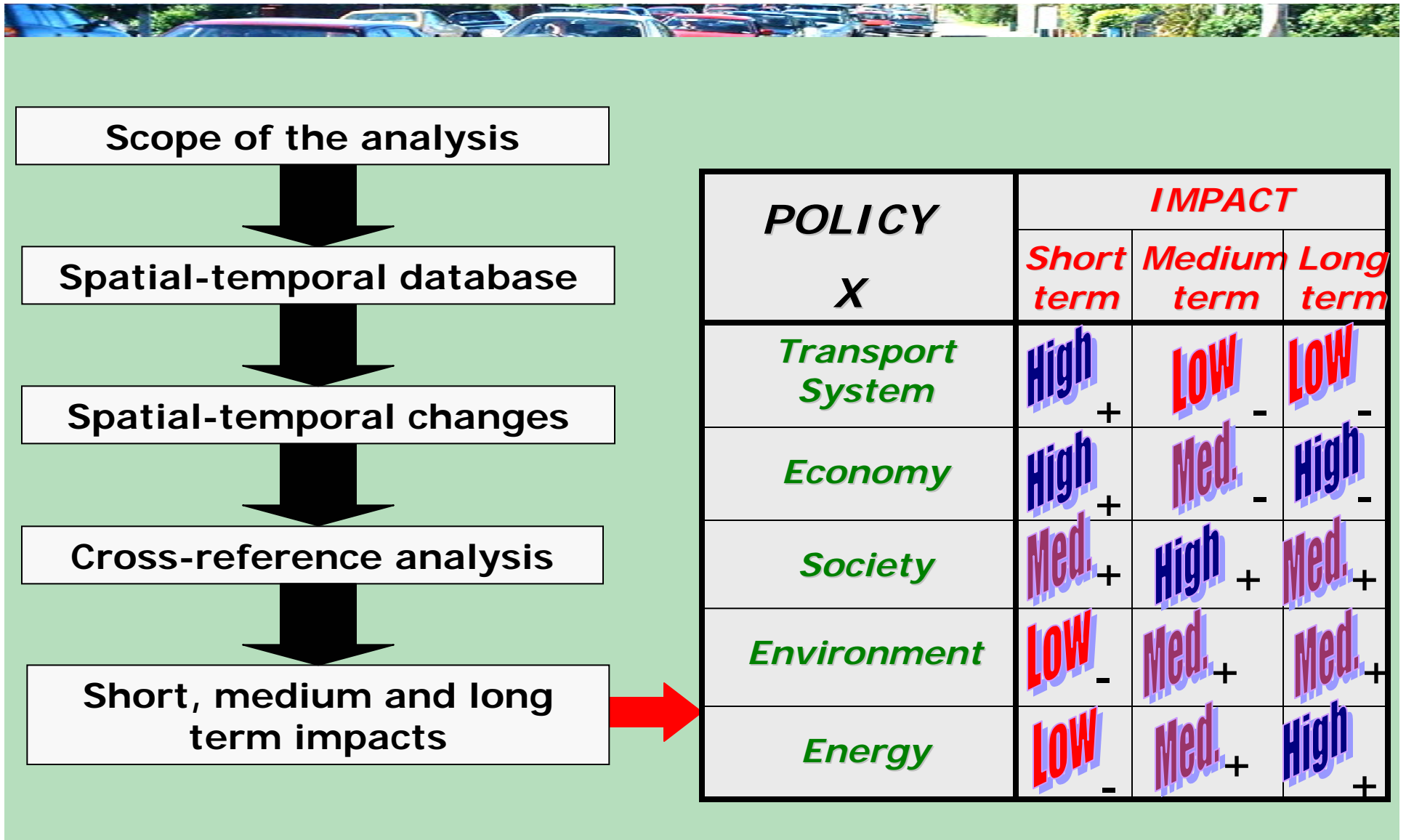
Spatial-temporal changes



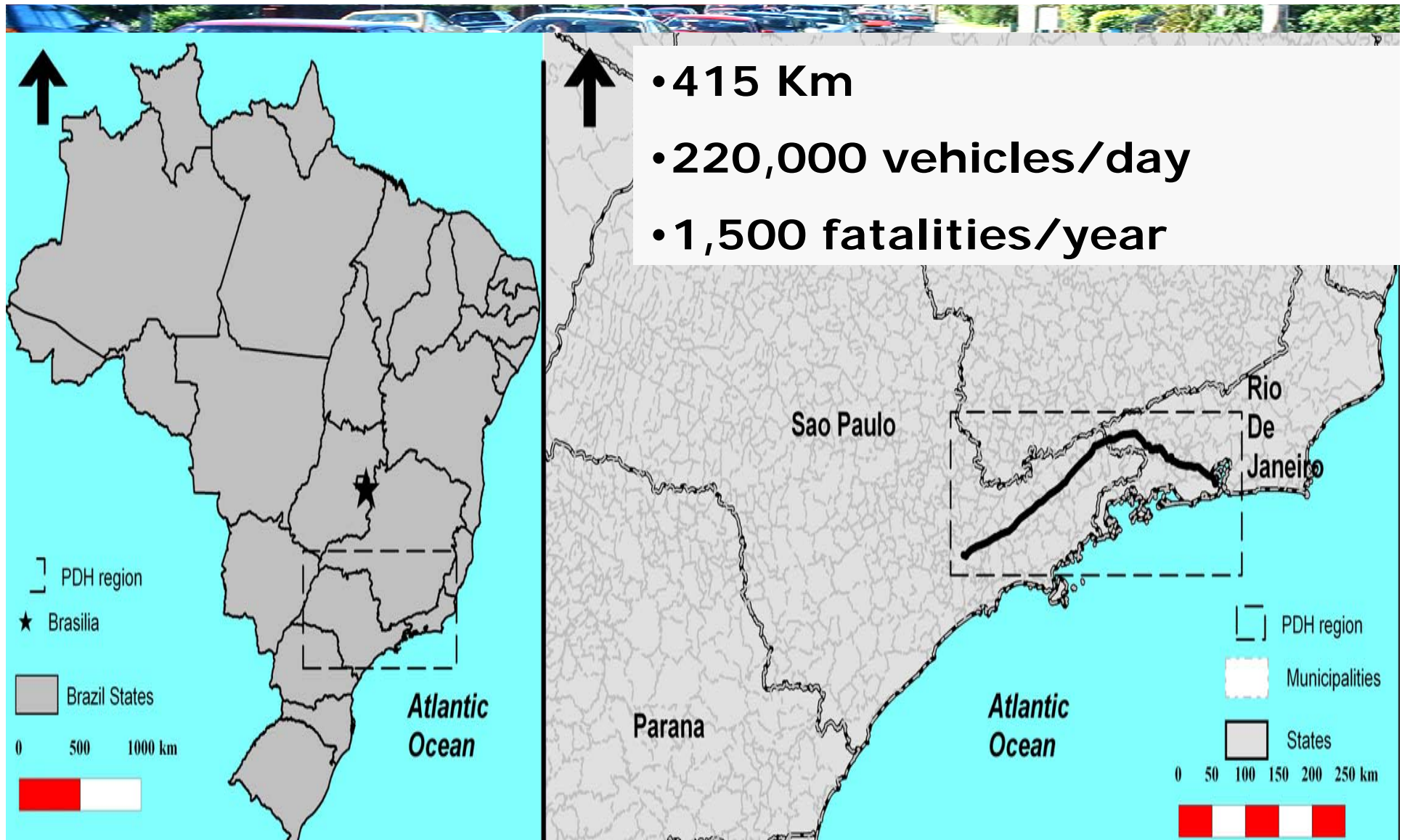
# IMPACT ASSESSMENT FRAMEWORK



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# CASE STUDY



# CASE STUDY

**(1970's) - Policy: State Funded Regular Maintenance**

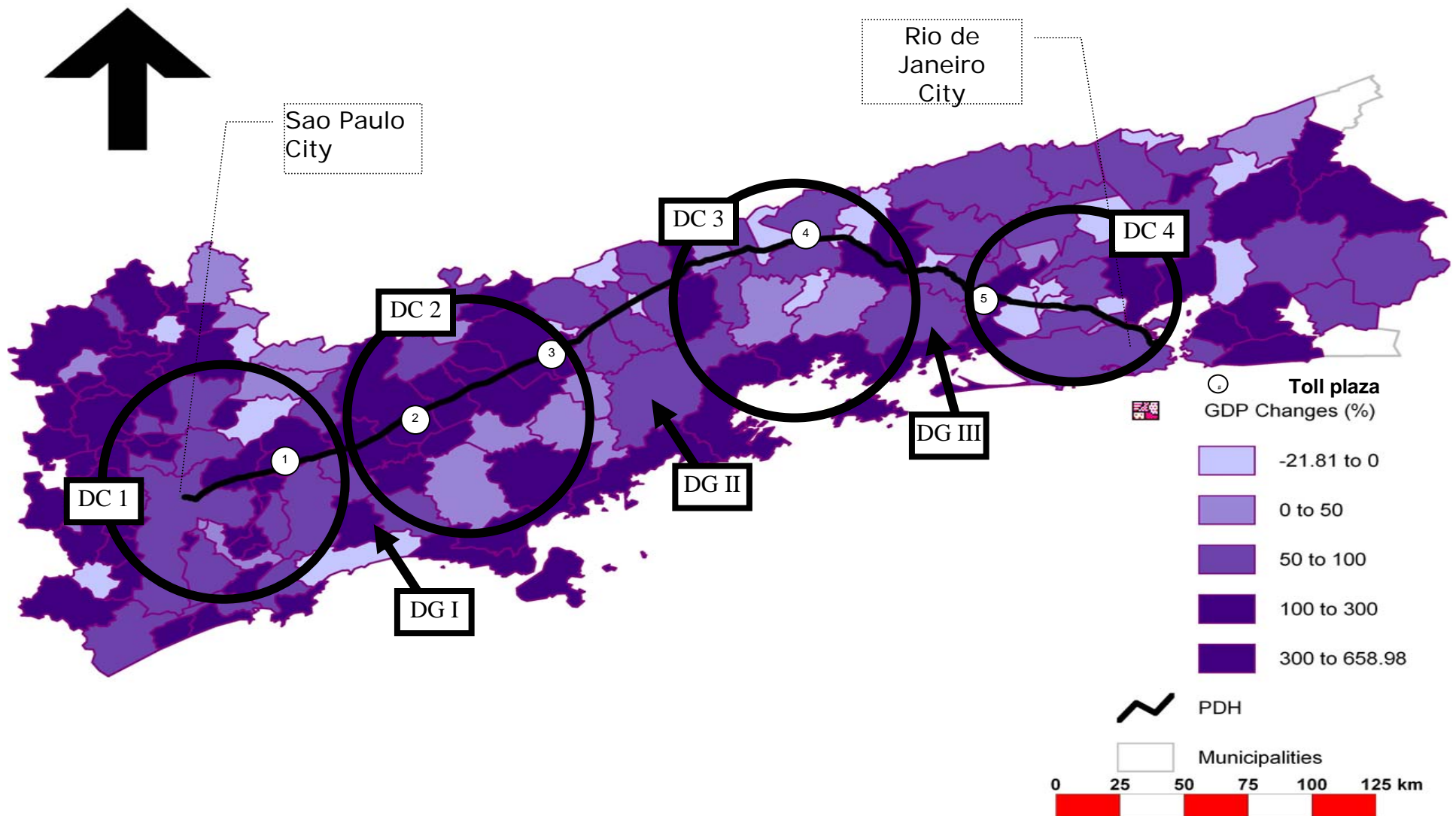
**(1980's) - Policy: State Budgetary Crisis-Minimum Maintenance**

**(1990's) – Policy: PPP-Concession-High Standard Maintenance**

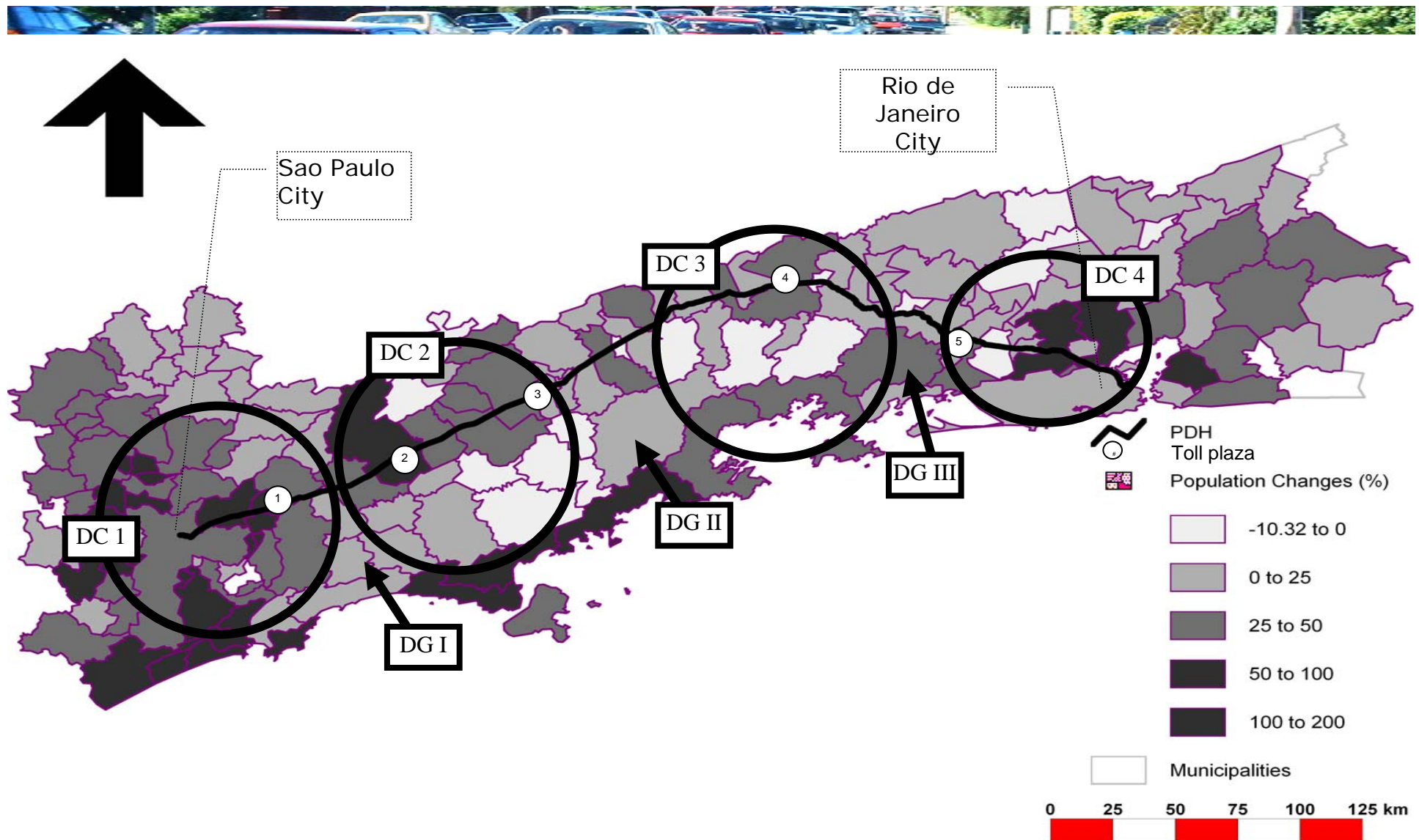




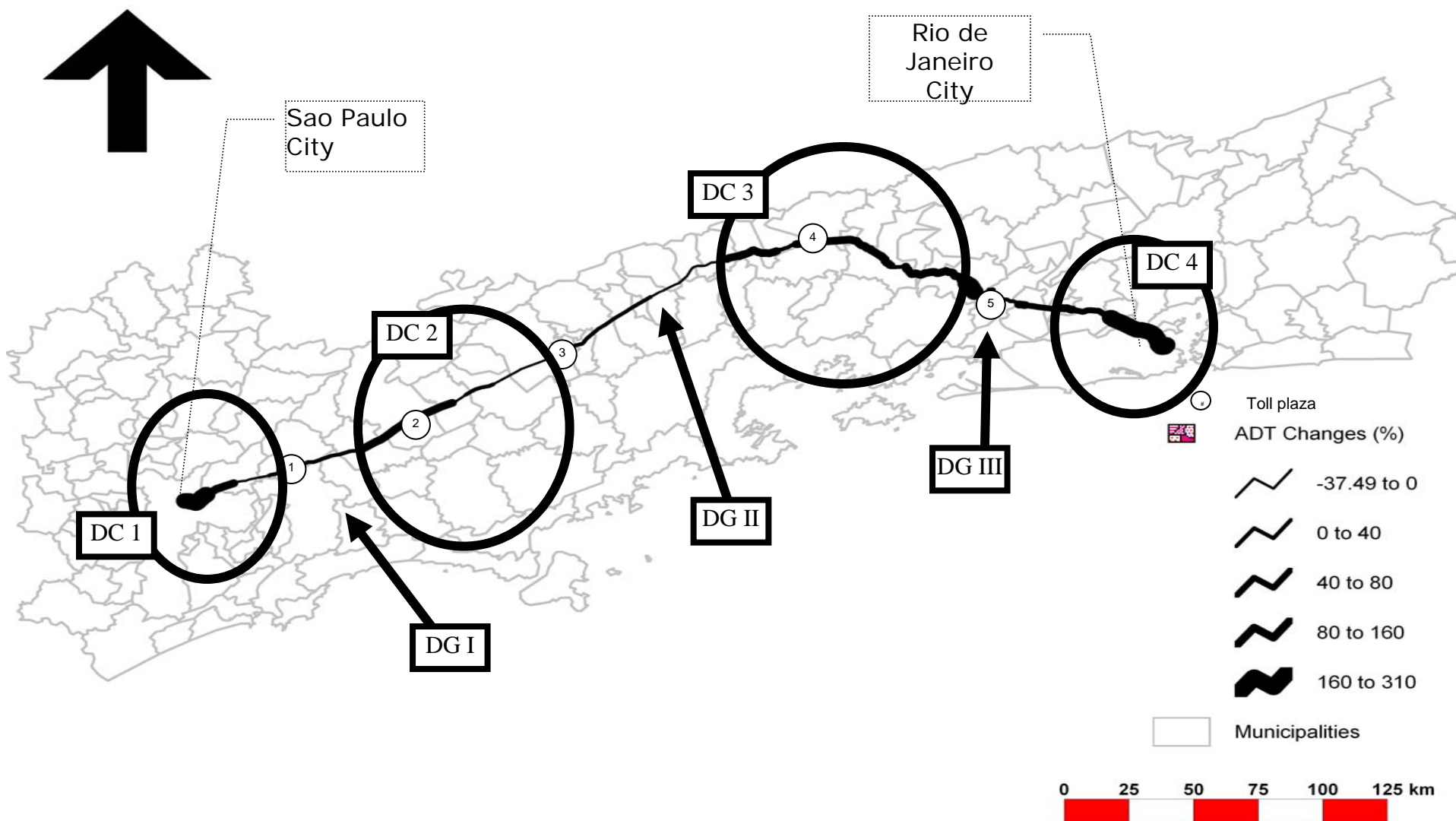
# CASE STUDY



# CASE STUDY



# CASE STUDY

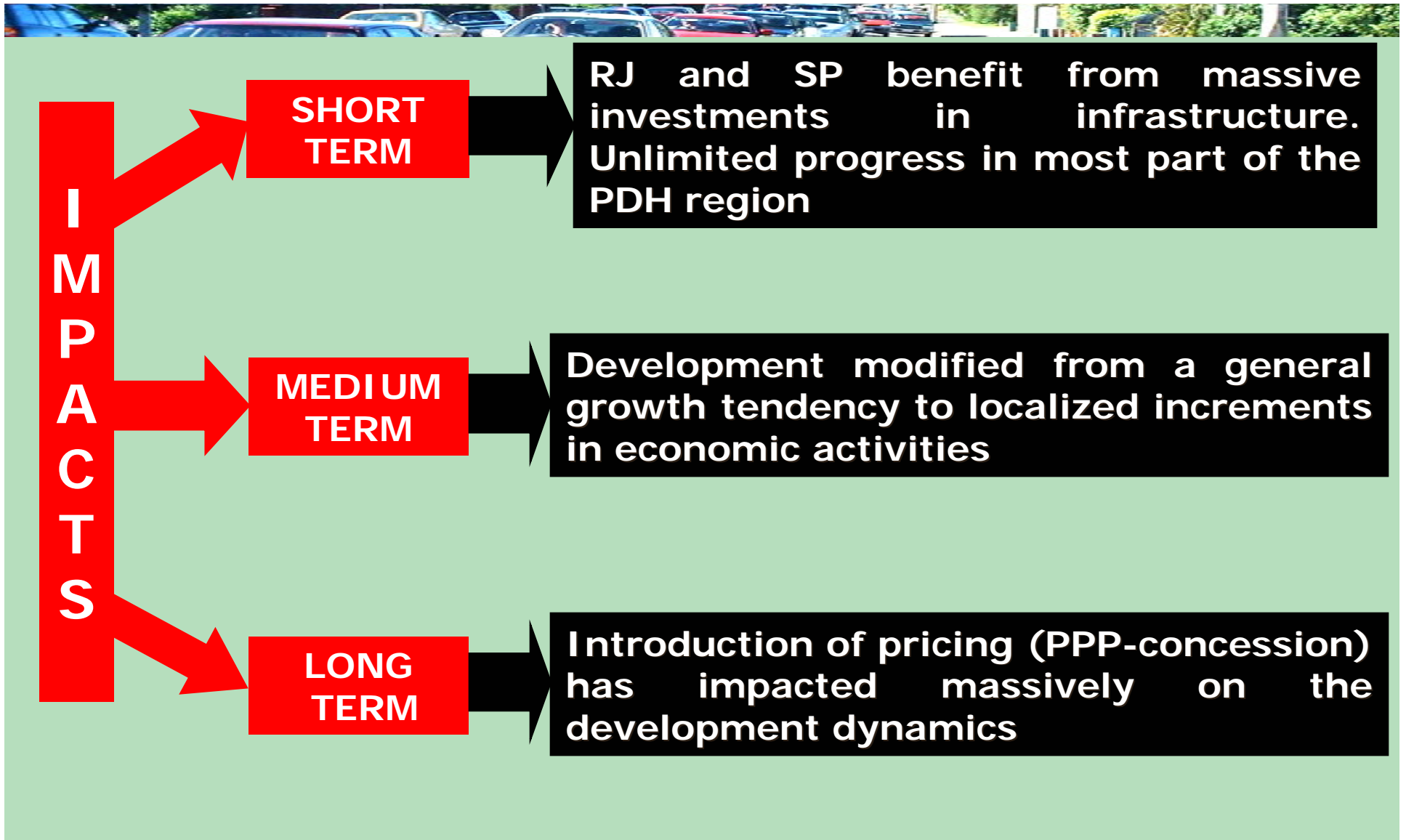


# CASE STUDY

	<b>T=1 (1970's) - Policy:</b> State Funded Regular Maintenance	<b>T=2 (1980's) - Policy:</b> State Budgetary Crisis-Minimum Maintenance	<b>T=3 (1990's) – Policy:</b> PPP-Concession-High Standard Maintenance
<b>Population</b>	Highest levels of growth near SP and RJ Metropolitan areas	Industrial growth outside SP and RJ metropolitan areas creating a generalized growth tendency	Highest levels of growth near SP and RJ Metropolitan areas
<b>GDP</b>	Low growth rates elsewhere in the PDH region	Reduction in growth rates due to economic and political crisis	Formation of development centres with similar growth rates
<b>AADT</b>			
<b>Accidents</b>	Generalized high numbers and growth rates	Considerable reduction due to law enforcement and traffic safety measures, but still high	Sharp reduction combined with soaring numbers in different road segments
<b>Land use</b>	Suburbanization in SP and RJ metropolitan areas converting rural into residential and industrial land use	General increased in suburbanization levels  Industrial land use dominating outside the metropolitan areas	Localized changes at slightly slow growth rates  Densification of urban and industrial land use in the development centres



# CASE STUDY





# CASE STUDY



- Current tolling system may create negative impacts in terms of limitations to development due to the increase in direct (user perceived) transport costs; and
- The charging system may also result in saturation (land use and transportation) of those areas in between toll plazas.
- Changes and complex AS-TS interrelationships only detected because a multidimensional time-series database was created for the PDH region

*And*

*in New Zealand....?*

# IMPACTS: NZ CONTEXT



- **Land Transport Act and Land Transport Strategy: need for assessment frameworks that holistically incorporate impacts.**
- **Proposed framework: information on land use-transport interactions.**
- **Implications on the Project Evaluation Manual and/or Planning process???**

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